

# FEASIBILITY STUDY

**Town Of Kill Devil Hills  
Improvements to SR 1217 (Colington Road)  
from US 158 (Croaton Highway) to  
the end of the Roadway**

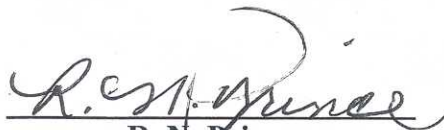
**Dare County**

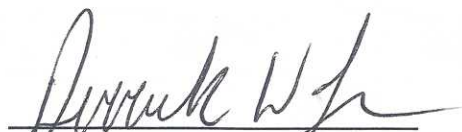
**Division 1**

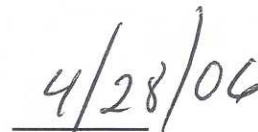
**FS-0201A**



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Town of Kill Devil Hills  
Improvements to SR 1217 (Colington Road)  
from US 158 (Croatan Highway) to  
the End of the Roadway  
Dare County

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## I. General Description

This feasibility study describes the operational and safety improvements to SR 1217 (Colington Road) from US 158 (Croatan Highway) to the end of the roadway, a distance of approximately 4.3 miles. The project location is shown on Figure 1. As part of the study, the project was divided into two (2) different sections, the details of which are as follows:

- ◆ **Section A:** Four-lane divided curb and gutter section, 79 feet wide face-to-face of curbs with a 23' raised grass median on 120' of right-of-way with a multiuse path on one side. The alignment will be symmetrical about the centerline throughout Section A.
- ◆ **Section B:** Two-lane shoulder section, 32 feet wide from edge of pavement to edge of pavement including 4' paved shoulders to accommodate cyclists on 80' of right-of-way. The alignment will be symmetrical about the centerline except where the proposed realignments are indicated.

This is the initial step in the planning and design process for this project and is not the product of exhaustive environmental or design investigations. The purpose of this study is to describe the proposed project including cost, and to identify potential problems that may require consideration in the planning and design phases.

## II. Background

The purpose of this project is to improve the traffic carrying capacity, drainage and access along Colington Road as well as promote a safer environment for motorists, pedestrians and cyclists.

SR 1217 (Colington Road) is classified as a rural local route in the North Carolina functional classification system.

Section A of Colington Road is currently a three-lane section on 40' of pavement with 12' lanes from US 158/Ocean Bay Boulevard Intersection (east) to the Ocean Bay Boulevard Intersection (west). Section B of Colington Road is currently a two-lane shoulder facility with 21' of pavement from the Ocean Bay Boulevard intersection (west) to the end of the roadway.

The development along Colington Road (SR 1217) is primarily residential with some commercial and institutional property.

There are two bridges located on this project however, proposed construction will not affect these structures.

The Colington Island Homeowners Association and Colington Harbour Association, Inc. expressed concerns with congestion, access and the existing drainage in this area. High tide and heavy rainfall encroach upon the travel lanes due to insufficient roadway drainage, and several severe curves need to be realigned to improve safety.

The Town of Kill Devil Hills, Dare County, Colington Island Homeowners Association, and the Colington Harbour Association, Inc. support this project.

### **III. Traffic and Safety**

There are two existing traffic signals within the project limits, one located at the Colington Road intersection with US 158 (Croatan Highway) and the other at the intersection with Veterans Drive.

The current year Average Daily Traffic (ADT) along Colington Road between US 158 and Veterans Drive is 8200 vehicles per day (vpd) in 2006 and is projected to be 14400 vpd in the 2030 Design Year (DY). West of Veterans Drive in section A the current year ADT along Colington Road is 6,900 vpd in 2006 and projected to be 12,200 vpd in the 2030 design year. Traffic projections in section B were not available for this feasibility study evaluation but are anticipated to be less than the projected traffic indicated above. Truck traffic along Colington Road is estimated to be up to 5% of the ADT.

The existing two-lane and three-lane sections on Colington Road currently operate at a LOS D or better, with the exception of the intersection with US 158 which operates at a LOS F. If no improvements are made, Colington Road near US 158 intersection (Section A) will degrade to an LOS E by the 2030 design year with the remainder of Colington Road operating at a LOS D. However, if the recommended improvements are implemented, Colington Road will continue to operate at a LOS D or better in the 2030 design year. The exception is the US 158 / Colington Road intersection which will continue to operate at a LOS F even with the recommended improvements contained in this report. Additional improvements to this intersection are not included because adding additional through capacity to US 158 is well beyond the scope of this project.

Between 2000 and 2003, 109 accidents occurred within the project limits. There were 42 injury accidents, 66 property damage only accidents and 1 fatality as a result of these incidents. The accident rate for this 4.3-mile portion of roadway is 303.86 accidents per 100 million vehicle miles of travel (acc/100mvm), which is lower than the 2000-2002 statewide rate of 347.58

accidents/100mvm for two-lane undivided rural secondary routes. However, of the 109 crashes, 31 of these were recorded under wet conditions. This resulted in a wet accident rate in the project area of 86.42 crashes per 100 million vehicle miles of travel (acc/100mvm), which is significantly higher than the statewide wet accident rate of 57.54 acc/100mvm.

The above average wet accident rate suggest there might be safety and operational deficiencies along this particular section; however, with the proposed improvements it is anticipated the number and severity of these types of crashes will be reduced.

#### IV. Description of Alternatives

It is proposed to improve Colington Road (SR 1217) from Croatan Highway (US 158) to the end of the project, a distance of approximately 4.3 miles. The project location is shown on Figure 1. The project was divided into two (2) sections in this study.

The cost estimates below include removal and replacement of a multi-use path parallel to Colington Road from US 158 to Baum Bay Drive (SR 1452) at an estimated cost of \$390,000.

The details of the proposed sections are as follows:

- ♦ **Section A:** Widening of Colington Road from US 158 to just west of Ocean Bay Boulevard to a four-lane divided curb and gutter section, 75 feet wide face-to-face of curbs with a 23' raised grass median with 15' berms on 120' of right-of-way. The alignment would be symmetrical about the centerline throughout Section A.

Turn-lanes:

- Dual left-turns-lanes from US 158 onto Colington Road.
- Dual left-turns-lanes from Colington Road onto US 158.
- A left-turn-lane from Colington Road onto Veterans Drive.
- A left-turn-lane from Colington Road onto Ocean Bay Boulevard.
- Right-turn-lanes are provided from Colington Road onto US 158, Veterans Drive and Ocean Bay Boulevard.

Under the proposed improvements for Section A, it is anticipated there will be one (1) residential and one (1) business relocation. The total cost of this alternative is estimated to be \$6,500,000.

Construction	\$4,000,000
Right-of-Way & Utilities	\$2,500,000
Estimated Project Cost (Section A)	\$6,500,000

- ♦ **SECTION B:** Upgrade Colington Road from just west of Ocean Bay Boulevard to the end of the roadway to a two-lane shoulder section with 32 feet pavement including 4' paved shoulders on 80' of right-of-way. The alignment would be symmetrical about the centerline except for the following realignments and auxiliary turn-lanes:

Turn-lanes:

- Left-turn-lane from Colington Road onto Baum Bay Drive.
- Continuous left-turn-lane on Colington Road from Creekside Lane through Walkabout Lane.
- Left-turn-lane from Colington Road onto Waters Edge Drive.
- Left-turn-lane from Colington Road onto Colington Drive.
- Continuous left-turn-lane on Colington Road from School House Road through Sandpiper Drive.

Realignments:

- Colington Rd. at Colington Mobile Home Park Entrance.
- Colington Rd. at the Methodist Church Northwest of Williams Drive (SR 1490).
- Colington Rd. at Waters Edge Drive

Under the Section B proposal, it is anticipated there will be twenty-one (21) residences and five (5) businesses relocated. The total cost of this alternative is estimated to be \$30,800,000.

Construction	\$12,800,000
Right-of-Way & Utilities	\$18,000,000
Estimated Project Cost (Section B)	\$30,800,000

If a reduction in cost is desired, the cross-section can be reduced to a 2' paved shoulders on each side. Although this would not accommodate cyclists, the resulting cost savings would be approximately \$700,000.

Note: In order to accommodate the multiuse path from Ocean Bay Boulevard to Baum Bay Drive along Colington Road, curb and gutter should be placed on the northern side of Colington Road.

Due the magnitude of the impacts along this section of Colington Road, the recommended right-of-way width for Section B is 80 feet. However, a more conservative right-of-way width of 100 feet was also evaluated for Section B during this feasibility study. Typically, we recommend 100' of right-of-way be utilized in two-lane improvement projects because it provides sufficient room to accommodate the proposed two-lane upgrade with improved flexibility and construct-ability. It is anticipated that this additional 20 feet of right-of-way would cost approximately \$11,000,000 more and would require relocation of an additional 22 residences and 6 businesses. If during later planning and design studies it is determined that 80' of right-of-way is insufficient, the project cost will need to be increased accordingly.

## **V. Community Issues**

A detailed investigation of community issues was not conducted for this feasibility study however, minimum impacts to schools, parks, recreation areas and community facilities are anticipated with this project.

There is a significant student population that uses the Colington Road corridor due to the completion of the First Flight High School located off Veterans Blvd.

Some areas of Colington Road within Section B are prone to flooding during particularly heavy high tides and heavy rainfalls.

The Wright Brothers Memorial Park borders Section A and is listed on the National Register of Historic Places as a National Historic Landmark.

## **VI. Natural and Environmental Issues**

A detailed environmental study was not conducted for this feasibility study. However, existing information available for this project area has been screened for environmental and historic concerns. Minimum environmental and historic impacts are anticipated.

There is no indication of threatened or endangered species in the area based on available GIS data maintained by the National Heritage program.

## **VII. Summary**

**SECTION A:** In order to accommodate the projected traffic volumes, a four-lane divided curb and gutter section with a 23 foot wide raised grass median is needed on Colington Road from US 158 to just west of Ocean Bay Boulevard. The appropriate auxiliary turn lanes should be provided at the major intersections with US 158, Veterans Drive and Ocean Bay Drive. In addition to providing a positive separation between traffic, the raised grass median will provide a refuge for pedestrians utilizing the multiuse path along this section of Colington Road.

**SECTION B:** This section was developed because the Dare County and Colington Island Homeowners Association requested that Colington Road be widened to accommodate the growing traffic demands of this area. This alternative proposes to upgrade Colington Road from Ocean bay Boulevard to the end of the roadway to a two lane shoulder section with 32 feet of pavement including four foot paved shoulders on 80 feet of right-of-way. This proposed two-lane shoulder section will provide adequate roadway width, paved shoulders, improved drainage, and auxiliary turn lanes at some intersections. The four foot paved shoulders will also adequately accommodate bicyclists on this facility. This alternative also improves the horizontal alignment along some sections of Colington Road.

**The total project cost of Section A and Section B, including the upgrades to Colington Road, necessary Y-lines improvements, the multi-use path and bicycle accommodations is \$36,100,000.**

### **VIII. Additional Comments**

The Wright Brothers National Memorial Park and historic site is located in the northeast quadrant of the US 158 and Colington Road intersection.

Bicycle accommodations are included in this project.

There are two cemeteries, Hilltop Cemetery and 8900 Cemetery northeast of Duchess Court located within the project corridor.

**FS - 0201A**  
**Kill Devil Hills / Dare County**  
**FIGURE 1**

